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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,850	06/27/2005	Alexander Hofmann	HOFMANN10	2360
1444 7590 01/21/2009 BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			EXAMINER MCNALLY, DANIEL	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 01/21/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,850	Applicant(s) HOFMANN ET AL.	
	Examiner DANIEL MCNALLY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17, 20 and 22-33 is/are pending in the application.
- 4a) Of the above claim(s) 25-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 17 is objected to because of the following informalities:

Claim 17, line 6 recites "an outline (K)" which appears to be a reference to the figures or a typographical error. It is recommended removing the "(K)" from the claim.

Claim 17, line 16 recites "the group insisting of" which appears to be a typographical error. It is recommended replacing the word "insisting" with --consisting--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 is in incorrect dependent form, because it depends from cancelled claim 19. It is recommended amending the claim to depend from claim 17.

Claim 20 further limits the type of IR radiation used, however the claims do not require IR radiation is used. Claim 17 requires IR or UV radiation to be used, and if UV radiation is used than Claim 20 does not further limit the method. It is recommended amending claim 20 by inserting the language --the secondary radiation is IR radiation and—between "wherein" and "the" in line 2 of the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17, 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. [US2003/0213552, of record, previously cited, herein "Chen"] in view of Kubota et al. [US2003/0090562, newly cited, herein "Kubota"].

Chen discloses a method of transmissive contour welding. Chen discloses the well known method of laser welding two polymeric materials comprising providing a laser transparent material, providing a laser absorptive material, contacting the transparent and the absorptive materials, exposing a laser beam through the transparent material onto the absorptive material, wherein the absorption of the laser by the absorptive material heats the contact area between the two materials, the contact areas are heated under pressure and melt, the laser is moved over a contour to form a weld at the exposed areas (paragraph 0002). The laser is of a wavelength that is transmitted through the transparent material and is absorbed by the absorptive material. Chen discloses additional energy for welding can be provided by a focused secondary radiation source (paragraph 0010, Figure 2). Chen also discloses the materials are guided through rollers that press the material together, and the laser beam is brought into the irradiation zone by a first roller that is transparent to the laser beam (paragraph 0012, Figure 3). Chen discloses using multiple radiation sources but is silent as to the

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secondary source providing IR or UV radiation that deviates from the wavelength of the laser from the first radiation source.

Kubota discloses a method of radiation welding. The method comprises providing a transparent polymer material (502) and an absorptive polymer material (500), contacting the two materials, and providing a radiant energy beam to heat and weld the materials together at the interface between the materials. Kubota discloses the radiant energy beam can be focused and the depth of the focus is controlled by an optical device as a function of the composition of the transparent polymer material (paragraph 0019, 0020). As shown in Figure 5b, the focal point of the radiation heat the transparent polymer material (502) within the interfacial zone (505) to the melting point of the material (paragraph 0038). Kubota discloses the radiant energy beam is generated to have a wavelength based on the composition of the transparent and absorbent articles, and discloses that the radiant energy beam can be monochromatic, polychromatic, a laser, infrared radiation or ultraviolet radiation (paragraphs 0043, 0046, 0047, 0048). Kubota's method produces a quality weld that has good consistency because of the energy density produced at the interfacial zone (505).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the focused secondary radiation of Chen by using the radiation beam of Kubota in order to maintain a sufficient energy density at the interfacial layer including the transparent part so that a consistent quality weld can be achieved. One of ordinary skill in the art would have readily appreciated selecting a radiation beam that is infrared or ultraviolet as taught by Kubota, and to select the desired wavelength of the

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radiation based on the composition of the materials being welded wherein one would readily expect the wavelength to be different than that of the first laser beam as the secondary radiation is from a different source and is heating a different, i.e. previously heated, material.

With regard to claim 20, Kubota teaches the radiation beam can be of a wavelength in the infrared region (paragraphs 0047, 0048). One of ordinary skill would appreciate that light in the infrared region would include medium wave and short wave IR radiation, and Kubota teaches the polychromatic light sources produce shorter and longer wavelengths (paragraph 0043).

With regard to claim 22, Chen discloses the secondary radiation source is lead behind the laser welding beam.

With regard to claim 23, Chen and Kubota disclose the secondary radiation source focuses the energy to a point.

With regard to claim 24, Chen discloses the radiant energy is passed through a transparent pressing roller that is used to press the welding materials together.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Kubota and optionally in view of Korte [US6444946, newly cited].

Chen as modified discloses a method of transmissive contour welding. Applicant is referred to paragraph 5 for a detailed discussion of Chen as modified. Kubota teaches using IR radiation that includes shortwave and medium wave radiation.

In the event that Kubota's teaching of using IR radiation is found to be insufficient to satisfy the requirement of claim 20, Korte discloses it is known in the joint welding of

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two thermoplastic polymer materials to use radiation in the short-wave infrared region (column 1, lines 5-14).

One of ordinary skill in the art would have readily appreciated that short wave infrared wavelength radiation is sufficient to weld polymeric materials together, as taught by Korte.

Response to Arguments

7. Applicant's arguments with respect to claims 17, 20 and 22-24 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues previously applied Chen does not teach a means that serves for a temperature increase in the transmissive join partner, and the secondary radiation of Chen is not IR or UV radiation. Newly cited Kubota teaches the focused radiation energy is IR or UV radiation, and that the focused radiation heats the transparent polymeric material to its melt temperature.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MCNALLY whose telephone number is (571)272-2685. The examiner can normally be reached on Monday - Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel McNally/
Examiner, Art Unit 1791

/John L. Goff/
Primary Examiner, Art Unit 1791

/DPM/
January 12, 2009